



DTS DataPoint

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DTS Web Site

DTS offers two product lines: our TDAS line that was developed for impact labs, and the new e-SENSING line, integrating DAS and sensors designed to meet the needs of emerging commercial testing applications. Our newly upgraded website showcases the products: www.dtsweb.com



- PRODUCT OFFERINGS**
- TDAS PRO
 - TDAS G5
 - TDAS PLUS Accessories
 - TDAS CONTROL Software

- PRODUCT OFFERINGS**
- SLICE MICRO™
 - SLICE NANO™
 - Embedded Recorder Platform
 - Transient Shock Recorder
 - 6DX Sensor Package
 - Angular Rate Sensor
 - SLICEWare software

PRODUCT UPDATE

DTS Expands e-SENSING Product Line



e-SENSING Product Line - 2009

DTS is known for its international leadership in the design of data recorders for vehicle crash and occupant safety testing. In 2007, DTS introduced the e-SENSING product line showcasing a whole new range of products that would not only benefit our traditional automotive and safety test customers, but aid new markets including aerospace, industrial test, military and sports performance. Throughout 2008 and continuing into 2009, DTS has rapidly expanded its e-SENSING product line of embedded data recorders and sensor products. In the past year alone the e-SENSING line has grown to include new products such as SLICE MICRO, SLICE NANO, Transient Shock Recorder, ARS, 6DX and expansion of the Embedded Recorder platform. The product line growth assisted DTS in achieving an amazing milestone: over 25000 channels of DAS were delivered in 2008.

SLICE MICRO™ and SLICE NANO™ Make a Big Impact

In development since early 2007, the SLICE MICRO and SLICE NANO are two new high performance data recorders from DTS that are now shipping. The SLICE recorders raise the bar significantly with smaller size, higher shock tolerance, faster data collection, larger memory and flexible architecture.

SLICE recorders are modular systems. The Base SLICE contains the main

microprocessor, 4 GB of flash memory, a USB hub, and power and control functions. The user "stacks" Bridge SLICES on top of the Base SLICE, building up a recorder in 3 channel increments. SLICE stacks of up to 30 channels can be configured. SLICE stacks can then be chained together for test setups with hundreds of channels. SLICE recorder features include:

fully software configurable sample rate to 150 kHz/channel, minimum of 2 hours of recording time at 20 kHz/channel, and programmable gain, offset, triggering, anti-alias filtering, etc. Shock ratings are just short of amazing with a standard shock rating of 5,000 g's and optional 50,000 g!

The SLICE NANO is designed to be "embedded" into smart test devices and the automotive crash dummy is proving to be a great application. One of the first uses for the SLICE NANO is the Flex pedestrian leg being developed by Japan Automotive Research Institute (JARI). Another is the Hybrid III family of crash dummies. The SLICE NANO's ultra small size makes it easy to integrate into all dummy sizes and types, while its 5V excitation, software programmable gain, and support for Dallas sensor ID allow it to work with all common crash test dummy sensor inventories.



9 Channel SLICE NANO stack in HIII-6 year old head

Optional SLICES include an IEPE SLICE (piezo-electric sensor support), Digital SLICE (digital IO and frequency) and wireless communication. The SLICE recorders truly have the most flexible architecture of any system on the market. Applications so far include automotive crash, biomechanics (including rodeo riders), in-flight aerospace, missile and ordnance, blast, sports equipment, and many more to come.

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TECH NOTES

DTS Recommends USB Serial Adapter from B&B Electronics

To connect and isolate an RS-232 device to your USB-only PC port, DTS recommends the USB Serial Adapter offered by B&B Electronics (www.bb-elec.com) as a technically sound choice for your serial communication requirements. The part number is USO9ML2 and it is available for purchase directly from their web site.

Features include:

- 2000 V RMS optical isolation
- 15 KV ESD surge protection
- Supports all handshake lines (RTS, CTS, DTR, DSR, DCD, RI)

- Protects against surges, spikes and ground loops
- LEDs for transmit and receive lines
- USB 1.0, 1.1 and 2.0 compatible (12 Mbps)
- Automatic configuration on Windows® 98, ME, 2000, XP and Vista
- No power supply required (powered from USB bus)
- Includes 1 meter USB cable

The datasheet for this item is also available on the DTS website (www.dtsweb.com/support).



USB Serial Adapter from
B&B Electronics

Does your TDAS need a Tune-up?

DTS recommends servicing your TDAS and e-SENSING products every 12 months:

- Calibration measurements are performed using NIST traceable digital multimeters and signal generators which have been calibrated by a lab certified by A2LA for compliance with ISO 17025.
- Results are checked for conformance with SAE J211 / ISO 6487 where applicable.
- Calibration tests are required on a yearly basis for conformance to SAE J211.
- DTS Calibration includes the use of proprietary design information and in-house algorithms which have been developed to ensure that DTS hardware achieves the best performance possible.
- All regional offices are fully operational with trained team members and equipment to provide DTS Calibration services.
- On-site calibration and verification services can be performed at your facility alleviating freight expenses and potentially costly lead times.
- DTS Headquarters offers A2LA Accreditation.

For more information and pricing details, e-mail us at sales@dtsweb.com.



PRODUCT UPDATE (Cont.)

DTS 6DX Delivers 6 Degrees of Freedom Sensing in a Compact Package

In 2008 DTS developed a new 6 degree of freedom sensor in cooperation with the National Highway Traffic Administration (NHTSA) and the University of Virginia Center for Applied Biomechanics (UVa). The 6DX contains 3 linear accelerometers and 3 angular rate sensors in a 28 x 28 x 16.5 mm package, weighing a mere 26 grams. As part of the research conducted for NHTSA, DTS and UVa attached the 6DX to a crash test dummy and

collected high speed impact data. The purpose of this project was to develop a sensor-based methodology capable of accurately determining 6DOF kinematics to improve measurements during occupant and vehicle impact events. The 6DX is now available for delivery with internal linear accelerometers in ranges from ± 20 g to ± 6000 g and internal angular rate sensors in ranges from ± 300 to ± 50000 deg/sec.



6DX Sensor Package

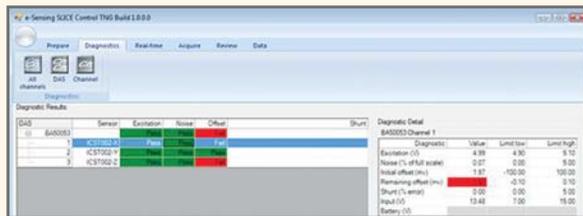
BITS AND BYTES

SLICEWare:

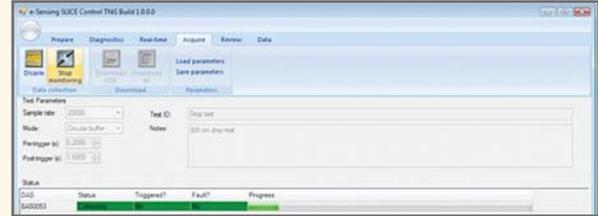
SLICE is a revolutionary data acquisition system with unmatched functionality in an unbelievably small size. SLICE Systems offer flexibility, superior technology and reliable data recording solutions for mission critical test applications. SLICEWare is the software programming function that offers flexibility and ease of use in creating test set-ups and collecting data.



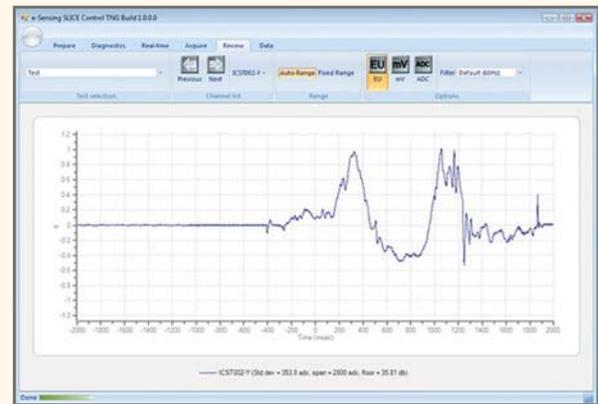
SLICEWare's sensor database allows for easy management of large or small sensor inventories. The integrated view of available SLICE systems makes sensor assignment with electronic ID or manually a snap.



Diagnostic tools such as excitation and offset measurement help identify wiring and other problems before collecting data.



It's easy to setup and monitor the data acquisition process. Details such as sample rate, test ID, and test length can be specified for each data collection run.



The SLICEWare data viewer provides easy to use tools for reviewing test data. Features such as zoom, filtering, and range selection are just a mouse click away.

CUSTOMER SPOTLIGHT

Large Scale Blast Testing

Blast testing to verify the design of military personnel carriers has become a common application for DTS Data Acquisition System (DAS). The reinforced bottoms of modern personnel carriers are shaped to protect the vehicle's occupants by deflecting the blast energy from land mines or Improvised Explosive Devices (IEDs).

A TDAS G5 system is ideally suited for blast testing, as it not only offers the required high sampling rates up to 100 kHz with a bandwidth of 40 kHz, but its small and compact design allows installation either in a TDAS G5 Vehicle Docking Station (VDS), for use with conventional dummies, or as a fully integrated in-dummy DAS

solution. Integrated rechargeable batteries in the VDS or the dummy allow the DAS to collect data from the sensors in a circular buffer mode for 20-120 minutes (depending on the battery) until the explosive device is fired and the DAS



Photo courtesy of Millbrook Proving Ground and OTS Limited

triggered to record the signals from all installed sensors. The blast event is only a fraction of a second, but test engineers want to record several seconds of data before and after the blast. The TDAS G5 system can record 15 sec on all 32 channels at 100 kHz. At lower sampling rates the recording time is proportionally longer.

DTS customers currently performing blast tests with TDAS data recorders are: BRC - San Antonio, TX
MGA - Burlington, WI
Millbrook PG - Bedford, UK
Oregon Ballistics - Salem, OR
Otokar - Sakarya, Turkey
Oto Melara - La Spezia, Italy
Simbex - Lebanon, NH
US ARMY - Aberdeen, MD

DTS SPOTLIGHT

Michael Fornaciari Director, Manufacturing

DTS welcomes Michael Fornaciari. Mike brings extensive management experience with manufacturing operations of electronic products. His experience includes contributions in manufacturing engineering, production and supply chain management. Specific knowledge includes lean manufacturing, cost controls, yield improvement from Six Sigma methodology, infrastructure development and implementation, automation, acquisition integration, team building and meeting customer demands from a profitable operations cost structure.



DTS IN ACTION

Important Dates and Upcoming Events:

Sensors Expo and Conference

8-10 June
Rosemont, IL
Stand 310

ESV 2009

15-18 June
Stuttgart, Germany

Automotive Testing Expo 2009 Europe

16-18 June
Stuttgart, Germany
Stand C1010

Automotive Testing Expo 2009 China

15-17 September
Shanghai, China

National SBIR Beyond Phase II Conference and Technology Showcase

21-24 September
Orlando, FL

Aero Defense and Test 2009

29 September – 1 October
Baltimore, MD
Stand 438

SAE Brazil

6-8 October
Sao Paulo, Brazil

SAFE Association 2009 Symposium

19-21 October
San Diego, CA

Automotive Testing Expo 2009

North America
27-29 October
Novi, MI
Stand C234



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